THE AMERICAN JOURNAL OF PATHOLOGY

Official Publication of The American Association of Pathologists and Bacteriologists

BOARD OF EDITORS

EDWARD A. GALL, EDITOR-IN-CHIEF

ORVILLE T. BAILEY
JOEL G. BRUNSON
ALVIN J. COX, JR.
WILLIAM J. CROMARTIE
R. PHILIP CUSTER
RICHARD H. FOLLIS, JR.

DAVID G. FREIMAN GABRIEL C. GODMAN HOWARD T. KARSNER JOHN G. KIDD BENJAMIN H. LANDING EMORY D. WARNER

EDITORIAL ASSISTANT JANET E. SMITH

VOLUME XLII

(January through June)

1963

HOEBER MEDICAL DIVISION HARPER & ROW, PUBLISHERS COPYRIGHT © 1963

BY THE AMERICAN ASSOCIATION OF
PATHOLOGISTS AND BACTERIOLOGISTS

M610.5 am 393

v.42, Ja-Je 1963



CONTENTS FOR VOLUME XLII

JANUARY, 1963. NUMBER 1

	PAGE
Functioning Pancreatic Islet Cell Tumors Studied Electron Microscopically. (With 23 illustrations.) Sergio A. Bencosme, Raymond A.	
Allen and Harrison Latta	1
ELECTRON MICROSCOPY OF JUNCO POX. (With 14 illustrations.) David L. Beaver and William J. Cheatham	23
ALLERGIC INFLAMMATION. I. THE EARLIEST FINE STRUCTURAL CHANGES AT THE BLOOD-TISSUE BARRIER DURING ANTIGEN-ANTIBODY INTERACTION. (With 13 illustrations.) Henry Z. Movat and Neil V. P. Fernando.	41
THE ROLE OF LOCAL ARTERIAL IRRITABILITY IN THE DEVELOPMENT OF ARTERIO- ATHEROSCLEROSIS. (With 10 illustrations.) William H. Gutstein, Abel Lazzarini-Robertson, Jr., and Jean N. LaTaillade	61
STUDIES OF ARTHRITIS AND OTHER LESIONS INDUCED IN RATS BY THE IN- JECTION OF MYCOBACTERIAL ADJUVANT. VII. PATHOLOGIC DETAILS OF THE ARTHRITIS AND SPONDYLITIS. (With 30 illustrations.) Carl M. Pearson and Fae D. Wood	73
EXPERIMENTAL LEUKOENCEPHALOPATHIES DUE TO IMPLANTATION OF FOREIGN SUBSTANCES. (With 21 illustrations.) Seymour Levine, H. M. Zimmerman, Eugene J. Wenk and Nickos K. Gonatas	97
FEBRUARY, 1963. NUMBER 2	
THE DISPOSAL OF INHALED PARTICULATE MATTER; A UNIFYING HYPOTHESIS. (With 8 illustrations.) A. G. Heppleston	119
INDUCTION OF ATHEROSCLEROSIS BY CHOLESTEROL FEEDING IN THE HYPO- PHYSECTOMIZED RAT. (With 18 illustrations.) Paul R. Patek, Sol Bernick, Benjamin H. Ershoff and Arthur Wells	137
PANAORTITIS. (With 13 illustrations.) H. Alexander Heggtveit, Gordon R. Hennigar and Thomas G. Morrione	151
RIGHT VENTRICULAR HYPERTROPHY IN SPONTANEOUS AND EXPERIMENTAL PULMONARY EMPHYSEMA. H. T. G. Strawbridge	
THE NATURE OF SCAR TISSUE IN GLOMERULONEPHRITIS. (With 14 illustrations.) David B. Jones	185
Complement Fixation in Diseased Tissues. II. Fixation of Guinea Pig Complement in Renal Lesions of Systemic Lupus Erythematosus. (With 33 illustrations.) Peter M. Burkholder	

STUDIES WITH TRITIATED ENDOTOXIN. I. PREPARATION AND ANALYSIS OF TRITIATED ENDOTOXIN. (With 3 illustrations.) Wayne H. Schrader and Bertram F. Woolfrey	225
THE EFFECT OF ESTROGEN ON THE LIVER IN MURINE VIRAL HEPATITIS. (With	**3
8 illustrations.) Wallace A. Jones and Richard B. Cohen	237
MARCH, 1963. NUMBER 3	
Relapsing Polychondritis, Report of Two Necropsied Cases with Histo- chemical Investigation of the Cartilage Lesion. (With 11 illustra- tions.) M. Anthony Verity, William M. Larson and Sidney C. Madden	251
PREVENTION BY CORTISONE OF THE CHANGES IN CARTILAGE INDUCED BY AN EXCESS OF VITAMIN A IN RABBITS. (With 8 illustrations.) Lewis Thomas, Robert T. McCluskey, John Li and Gerald Weissmann	271
THE DEMONSTRATION OF IRON IN OSSEOUS TISSUE BY FE ⁵⁹ RADIOAUTOG- RAPHY. (With 6 illustrations.) Wallace L. Past	285
An Electron Microscopic Study of Human Generalized Argyria. (With 5 illustrations.) Philip H. Prose	293
VARIATIONS OF AMINOPEPTIDASE ACTIVITY IN GRANULATION TISSUE AND IN SERUM OF RATS DURING WOUND HEALING. A CORRELATED HISTOCHEMICAL AND QUANTITATIVE STUDY. (With 11 illustrations.) Benito Monis.	301
THE DEVELOPMENTAL HISTORY OF THE PLASMACYTE. Donald B. McMillan and Vibeke E. Engelbert	315
DEOXYRIBONUCLEIC ACID AND ANHYDROUS NUCLEAR MASS VALUES IN LEUKE- MIA AND NORMAL LYMPHOCYTES. A COMPARATIVE MICRODENSITOMETRIC AND INTERFEROMETRIC STUDY. William M. Christopherson, Walter L. Broghamer, Jr., and Frank J. Swartz	337
Hypercholesteremia and Pulmonary Arterial Lesions Produced by Thromboplastin. (With 6 illustrations.) Ira Gore, Kenzo Tanaka and	
Bernard J. Larkey	345
THE EFFECT OF BACTERIAL ENDOTOXIN ON THE PLACENTA OF THE RAT. (With 11 illustrations.) Donald G. McKay and Ting-Chao Wong	357
APRIL, 1963. NUMBER 4	
Macroscopic Identification of Early Myocardial Infarcts by Alterations in Dehydrogenase Activity. (With 16 illustrations.) Marvin M. Nachlas and Theodor K. Shnitka	379
RESPONSE OF THE GASTROINTESTINAL TRACT OF THE MOUSE TO 5-FLUORO- URACIL. (With 8 illustrations.) Albert L. Muggia, Edward Wagman, Saul S. Milles and Howard M. Spiro	407
Some Morphologic Characteristics of Whipple's Disease. (With 10 illustrations.) W. Robert Adams, Alfred W. Wolfsohn and Howard M.	
Spiro	415

EXPERIMENTAL PULMONARY EMPHYSEMA. THE EFFECT OF INTRATRACHEAL	
INJECTION OF CADMIUM CHLORIDE SOLUTION IN THE GUINEA PIG. (With 12 illustrations.) W. M. Thurlbeck and F. D. Foley	431
THE DISTRIBUTION PATTERNS IN THE RAT PLACENTA OF ANTIGENS COMMON TO THE RAT GLOMERULUS AS REVEALED BY IMMUNOFLUORESCENT TECHNIQUES. (With 10 illustrations.) J. H. Boss and J. M. Craig	443
Ultrastructure of Inflammation with Edema in the Rat Brain. (With 13 illustrations.) Nickos K. Gonatas, H. M. Zimmerman and Seymour Levine	
THE RESPONSE OF THE LYMPHATIC TISSUE TO THE MICROBIAL FLORA. STUDIES ON GERMFREE MICE. (With 10 illustrations.) Heinz Bauer, Richard E. Horowitz, Stanley M. Levenson and Hans Popper	455
A Radioautographic Study of the Lesions of Fowlpox Using Thymidine-H ³ . (With 4 illustrations.) Thomas O. Swallen	471
COXSACKIE B. VIRUS INFECTION OF THE NEWBORN. (With 3 illustrations.) Robert E. Fechner, Margaret G. Smith and J. Neal Middelkamp	493
	1,0
MAY, 1963. NUMBER 5	
HISTOCHEMICAL ALTERATIONS IN ISCHEMIC HEART MUSCLE AND EARLY MYO- CARDIAL INFARCTION. (With 15 illustrations.) Theodor K. Shnitka and Marvin M. Nachlas	
STUDIES IN EXPERIMENTAL EOSINOPHILIA. V. EOSINOPHILS IN LYMPH NODES OF GUINEA PIGS FOLLOWING PRIMARY ANTIGENIC STIMULATION. (With 7 illustrations.) Mortimer Litt	507
ELECTRON MICROSCOPY OF HYPERSENSITIVITY REACTIONS: THE ARTHUS PHE- NOMENON. (With 14 illustrations.) Seymour M. Sabesin and William G. Banfield	
Prevention by Hydrocortisone of Changes in Connective Tissue Induced by an Excess of Vitamin A Acid in Amphibia. (With 9 illustra-	551
tions.) Gerald Weissmann, Ernest Bell and Lewis Thomas RIFT VALLEY FEVER VIRUS HEPATITIS. LIGHT AND ELECTRON MICROSCOPIC STUDIES IN THE MOUSE. (With 16 illustrations.) Malcolm H. McGavran	571
and Bernard C. Easterday	587
ELECTRON MICROSCOPY OF BISMUTH INCLUSIONS. (With 6 illustrations.) David L. Beaver and Robert E. Burr.	609
Fine Structure of the Human Wart. (With 22 illustrations.) George B. Chapman, Lewis M. Drusin and Jean E. Todd	619
JUNE, 1963. NUMBER 6	
Intraluminal Nuclei and Other Inclusions as Agonal Artifacts of the Renal Proximal Tubules. (With 11 illustrations.) J. B. Longley and	
M. S. Burstone	643

FOCAL CYTOPLASMIC DEGRADATION. (With 40 illustrations.) Z. Hruban, B. Spargo, H. Swift, R. W. Wissler and R. G. Kleinfeld	657
THE SELECTIVE INJURIOUS RESPONSE OF TESTICULAR AND EPIDIDYMAL BLOOD VESSELS TO CADMIUM AND ITS PREVENTION BY ZINC. (With 20 illustrations.) Samuel A. Gunn, Thelma Clark Gould and W. A. D. Anderson.	685
An Electron Microscopic Study of Equine Abortion Virus Infection in Hamster Liver. (With 12 illustrations.) Roger B. Arhelger, Robert W. Darlington and Charles C. Randall	703
CELL PROLIFERATION AND FIBER FORMATION IN CHRONIC CARBON TETRA- CHLORIDE INTOXICATION. A MORPHOLOGIC AND CHEMICAL STUDY. (With 8 illustrations.) Emanuel Rubin, Ferenc Hutterer and Hans Popper	715
FATTY CIRRHOSIS IN THE RAT. V. REGRESSION UPON RETURN TO NORMAL DIET. (With 10 illustrations.) Y. Ohta, F. G. Zaki and F. W. Hoffbauer	729
ELECTRON MICROSCOPY OF HYPERSENSITIVITY REACTIONS: ALLERGIC HEPATIC NECROSIS. (With 11 illustrations.) Seymour M. Sabesin	743
Ecologic Factors in Dental Caries. The Fate of Antibiotic-Resistant Cariogenic Streptococci in Hamsters. (With 6 illustrations.) $R.\ J.$	
Fitzgerald and Paul H. Keyes	759
Index of Subjects	773
INDEX OF AUTHORS	775